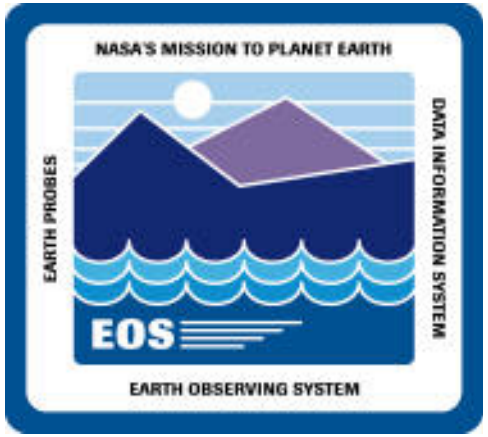


# Push Scenarios Overview

## Steve Marley

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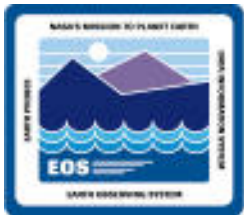
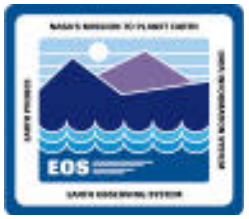
**30 October 1995**

# Push Scenarios Overview - Agenda




- **Characterization of Push Scenarios**
- **Push Side Design Drivers**
- **Push Side Scenario Outline & Drill Downs**
- **Push Views and Push Side Design Mappings**
- **Scenario Presentation Description**

# Characterization of Push Scenarios




**Push scenarios describe the evolution of the use of the production capabilities of the ECS by tracking the high-level history of a Data Collection and the Science Software that is used to populate it.**

**We concentrate on 3 key operational phases**

**Science Software Installation (Launch - N)**

- **Characterized by dominance of non & semi-automated functions to establish the operational parameters of the production chain and data collection**

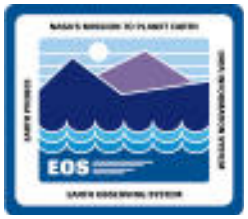
**Production Shakedown (Launch)**

- **Characterized by irregular use of system resources in support of Science Software validation**

**Nominal Operations (Launch + M)**

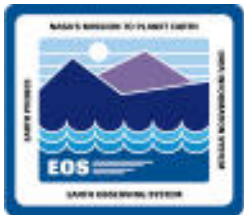
- **Characterized by regular automated operations**

# DAAC Activity Phasing




| | EDC | GSFC | LaRC | MSFC | ASF | JPL | NSIDC | ORNL | SMC |
|---|---|---|---|---|---|---|---|---|---|
| **AM-1 Launch - 9 months (L7-6 months)** | | | | | | | | | |
| TRMM Operations | | X | X | X | | | | | X |
| ***Science Software Installation*** | **X** | **X** | **X** | | **X** | **X** | **X** | | |
| IV&V Testing | X | X | X | X | X | X | X | X | X |
| Interface Testing | X | X | X | X | X | X | X | X | X |
| Operator Training | X | X | X | X | X | X | X | X | X |
| VO data migration & distribution | X | X | X | X | X | X | X | X | |
| ECS Maintenance & Sustaining Engineering | X | X | X | X | X | X | X | X | X |
| **AM-1 Launch** | | | | | | | | | |
| Operator Training | | | | | | X | | | |
| ***Mission Operations (Production Shakedown)*** | **X** | **X** | **X** | **X** | **X** | | **X** | **X** | **X** |
| VO data migration & distribution | X | X | X | X | X | X | X | X | |
| ECS Maintenance & Sustaining Engineering | X | X | X | X | X | X | X | X | X |
| **AM-1 Launch + 12 months** | | | | | | | | | |
| Site HW Capacity Upgrades & Testing | X | X | X | X | X | X | X | X | |
| ***Mission Operations (Nominal Operations)*** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** |
| VO data migration & distribution | X | X | X | X | X | X | X | X | |
| ECS Maintenance & Sustaining Engineering | X | X | X | X | X | X | X | X | X |

# Push Side Design Drivers and Features




**Extended Mission Baseline**

**Order-of-Magnitude More Data**

**Distributed Production**

**Flexible Production Scheduling**

**Parallel Modes of Operation**

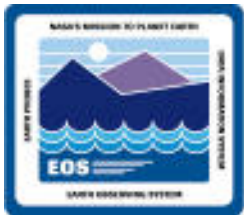
**Release A**
- Remote Access for SSI&T

**Release A Extended in B**
- Re-usable software APIs
- Low latency technologies & resource pooling
- Common application management environment
- Seamless Access to Data

**Release B**
- Predictive Data Staging
- Cross site schedule coordination
- On-demand & Reprocessing production modes
- Mode management

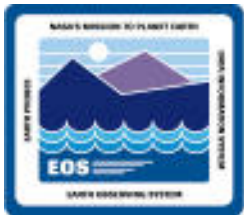
**Design Features**

# Push Scenario Outline




| Title | Subscenario | Drill Downs |
|---|---|---|
| Science Software Installation | Data Collection & Services Definition | Adding New ESDTs and Services |
| | Science Software Integration & Test | External I/Fs<br>Subscriptions<br>Remote Access to SSI&T<br>Advertiser |
| Production Shakedown | Calibration & Validation | Remote Access to SSI&T |
| Nominal Operations | EDOS L0 data ingestion & L1 standard production | Planning Workbench<br>External I/Fs<br>Predictive Staging |
| | Resource Planning for Reprocessing | Planning Workbench<br>Reprocessing Case Study |
| | Mode Management & software fault handling | Mode Management<br>Error Handling & Fault Management |
| | Cross-Site Schedule Conflict | Cross DAAC Planning |
| | Data Collection Extensions | Adding New ESDTs and Services<br>Advertiser |

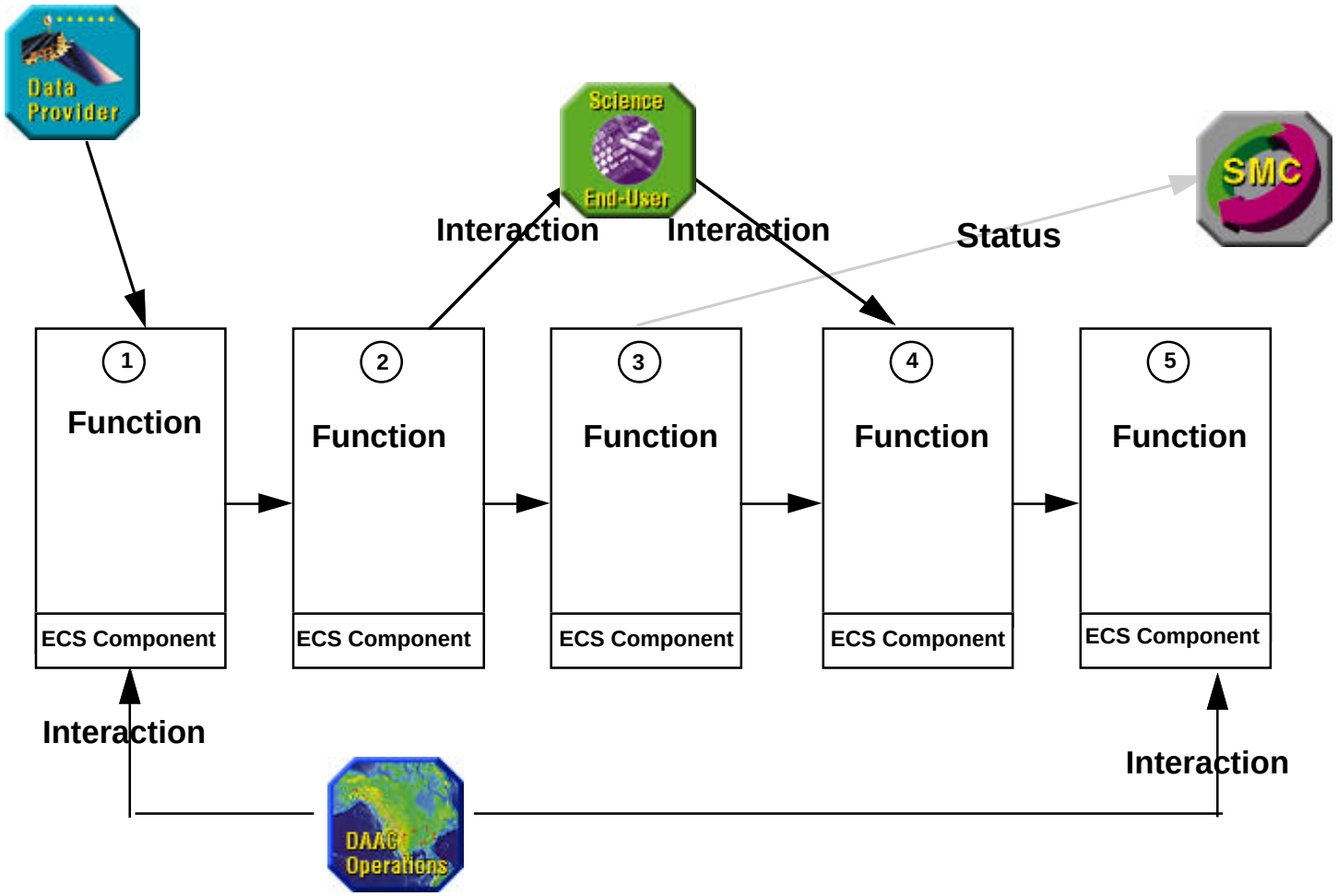
# Push Scenarios and the Four Views



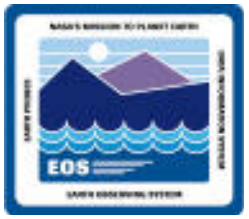

| Points of View | Push Scenarios | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Data Collection & Services Definition | Science Software I & T | Calibration & Validation | EDOS L0 Data Ingestion & Production | Resource Planning for Reprocessing | Mode Management & Software Fault | Cross-Site Schedule Conflict | Data Collection Extensions |
| **Data Providers:** External to DAAC | Defining ESDTs and Services | Science Software Testing | Calibration & Validation Activities | QA Monitoring | | | | |
| **DAAC Operations:** LSM and User Services | Coding ESDTs & Services | Science Software Testing | Supporting Ad Hoc Production | Operations & QA Monitoring | Production Scheduling | Mode & Fault Management | Conflict Resolving | Advertisement Control |
| **Science User** | | Yes | Yes | Yes | Ground Events | | | Yes |
| **SMC** | | Yes | Yes | Yes | Ground Events | Mode & Fault Monitoring | Coordination | Accounting Policy |

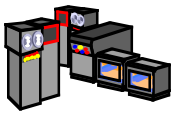
# Scenario Thread

## Functional Flow



# Scenario Thread
## Points of View




| Primary View Point | ECS System Components | Secondary View Point | Other View Points |
|---|---|---|---|
|   |  |   |   |
| **STAFF sends DATA to SUB-SYSTEM** | **SUBSYSTEM receives Data from STAFF**<br>① ***Activity***<br>**SUBSYSTEM sends DATA to SUBSYSTEM**<br>② ***Activity***<br>**SUBSYSTEM sends DATA to USER**<br>③ ***Activity***<br>**etc.....** | **USER receives DATA from SUB** | **SMC Monitors DATA** |